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Dickie

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(54) **PORTABLE COMPUTER WITH
INTEGRATED PDA I/O DOCKING CRADLE**

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345/158

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(56) **References Cited**

U.S. PATENT DOCUMENTS

3,407,869 A 10/1968 Staunton
4,241,380 A 12/1980 Lehmann et al.
4,519,016 A 5/1985 Bradley et al.
4,850,657 A 7/1989 Placke et al.
5,237,486 A 8/1993 LaPointe et al.
5,243,493 A 9/1993 Jeng et al.

5,272,593 A 12/1993 Jakob et al.
5,297,025 A 3/1994 Shouquist et al.
5,313,362 A 5/1994 Hatada et al.
5,557,500 A 9/1996 Baucom et al.
5,559,675 A 9/1996 Hsieh et al.
5,600,538 A 2/1997 Xanthopoulos
5,612,852 A 3/1997 Leaverault et al.
5,661,630 A 8/1997 Levins et al.
5,671,120 A 9/1997 Kikinis
5,677,830 A 10/1997 Nogus et al.
5,726,864 A 3/1998 Copeland et al.
5,751,550 A 5/1998 Korinsky
5,774,330 A 6/1998 Melton et al.
5,784,256 A 7/1998 Nakamura et al.
5,793,957 A 8/1998 Kikinis et al.
5,812,373 A 9/1998 Hwang
5,816,673 A 10/1998 Sauer et al.
5,835,343 A 11/1998 Johns et al.

(Continued)

FOREIGN PATENT DOCUMENTS

JP 408101816 4/1996

(Continued)

OTHER PUBLICATIONS

Article "Personal Computer Structure Designed for Robot-
ized Manufacturability", IBM Technical Disclosure Bulle-
tin, Aug. 1987, US, vol. 30, Issue 3, pp. 1253-1255.

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(57) **ABSTRACT**

The disclosure relates to computer systems. One example is
a portable computer having a housing, a processor and
memory mounted within the housing. The portable com-
puter also has a docking cradle integrated into the housing
to dock a handheld computing device and to interface the
handheld computing device with the processor, the docking
cradle having a fixedly movable receiving surface.

15 Claims, 4 Drawing Sheets

